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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Keiichi Nakatsugawa

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EXAMINER

ROSE, KERRI M

ART UNIT

PAPER NUMBER

2616

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/015,372	Applicant(s) NAKATSUGAWA ET AL.	
	Examiner KERRI M. ROSE	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,5 and 7-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14 and 21 is/are allowed.
- 6) ☒ Claim(s) 1,4,5,7-13,15-20 and 22-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
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| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 1/31/2008 have been fully considered but they are not persuasive.

Applicant's arguments, see page 10, filed 6/5/2008, with respect to the rejection(s) of claim(s) 1, 4, 5, 7-13, 15-19, and 22-25 under 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of previously cited reference Leung (US 6,621,810).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4, 5, 7-13, 15-19, and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada (US 2002/0012327) in view of Shimizu et al. (US 2002/0009066) further in view of Leung (US 6,621,810).

1. In regards to claim 1, Okada discloses a mobile node supporting router in paragraph 155. The router is between the mobile node and the host and therefore has a home and foreign interface. Paragraphs 150 and 155 and figure 11 further disclose that the binding information includes an association between the home address and output interface. The packet must be provided to the output interface in order to be forwarded to the final destination. Figure 4 of

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Okada shows a router with three interfaces. Only one can be the home interface, meaning the other two must be foreign interfaces.

Okada does not disclose the binding information including the care-of address. Okada is silent as to whether *each* foreign interface contains an encapsulating cache and processor.

Shimizu discloses binding information in a foreign interface associating the home address and the care-of address in figure 4. Shimizu discloses in figure 9 encapsulating a packet and bypassing a home agent, i.e. transmitting on a foreign link.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the care-of address, as taught by Shimizu, in the binding information taught by Okada because doing so allows for route optimization as taught by Shimizu in paragraph 19.

Leung discloses multiple interfaces in column 13 lines 40-50. Leung further discloses that each interface may have its own processor and memory in column 13 lines 50-54.

It would have been obvious to one of ordinary skill in the art at the time of the invention for each interface to include its own processor and memory, as taught by Leung, in the mobile router of Okada because doing so allows the master processor to more efficiently handle other tasks, such as network diagnostics and security, by offloading some of the intensive tasks, as taught by Leung in column 13 lines 54-60.

2. In regards to claim 4, Okada discloses a lifetime for the binding information in the second half of paragraph 150.

3. In regards to claim 5, the encapsulated packet must travel through the router to reach the interface. Such a route may inherently be called a packet transfer route.

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4. In regards to claim 7, Okada discloses an example of the binding information as stored in the cache in figure 11.

5. In regards to claim 8, Okada discloses using Mobile IP. Mobile IP defines sending a binding reply packet in response to the binding update packet sent in paragraph 145. The binding reply must travel through a route that may be called a packet transfer route.

6. In regards to claim 9, a binding reply is sent to the originating node. In order for the reply to reach the node it must be sent through the correct interface, that interface being the one supplied in the encapsulating cache.

7. In regards to claim 10, Okada discloses the mobile node router of claim 1 wherein when the encapsulating cache does not store the binding information of the node upon receiving a packet associated with the node, the processor acquires the binding information from a home agent. Mobile IP specifies that the home agent *always* maintains a current binding. Therefore the current binding is inherently available from the home agent if it was not stored in the encapsulating cache.

8. Claims 11-13 and 15-19 are inherent within Mobile IP.

9. In regards to claim 25, Okada discloses the mobile node router as claimed in claim 1 wherein the home agent is at least either on the home link or included in the home link interface. By definition the home agent must be associated with the home link.

10. In regards to claim 22, Okada discloses in figure 10 a router, which is situated between the home and foreign agents. The router receives the binding messages and maintains the cache of binding information instead of the home agent.

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11. In regards to claim 23, Okada discloses using Mobile IP for the binding messages in paragraph 145.

12. In regards to claim 24, Okada discloses the mobile node supporting router as claimed in claim 22 wherein when receiving information necessary for updating binding information which a binding cache of the home agent stores by the mobile IP message, the processor transmits the necessary information to the home agent. Mobile IP specifies that the home agent always maintains a current binding. Therefore any binding message must inherently be sent to the home agent.

Allowable Subject Matter

13. Claims 14 and 21 are allowed.

14. Claim 20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KERRI M. ROSE whose telephone number is (571) 272-0542.

The examiner can normally be reached on Monday through Thursday, 7:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung MOE can be reached on (571) 272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2616

/Kerri M Rose/
Examiner, Art Unit 2616